

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-32. (Canceled)

33. (Currently Amended) A method of treating waste matter from animals, the method comprising:

a) collecting waste matter from the animals;

b) ~~reversibly~~ inhibiting urease activity in said collected waste matter; and

c) separating said urease-activity inhibited waste matter into a urea-rich fraction essentially consisting of a liquid comprising urea and other components soluble in liquid manure and a urea-lean fraction;

d) irreversibly inhibiting urease activity in said urea-rich fraction wherein said irreversible inhibition comprises treating said urea-rich fraction with an irreversible inhibitor, said inhibitor being selected among the group consisting of

urea compounds selected from the group consisting of hydroxyurea, selenourea, phenylurea and thiourea;

benzoates selected from the group consisting of p-substituted mercuribenzoate, p-chloromercuribenzoate, p-hydroxymercuribenzoate and iodosobenzoate;

p-chloromercuribenzenesulfonate;

N-ethylmaleimide;

phosphor compounds selected from the group consisting of phosphoramidate and phosphate;

monovalent ions selected from the group consisting of F^- , Na^+ , and K^+ ;

divalent metal ions selected from the group consisting of Hg^{2+} , Cu^{2+} , Fe^{2+} , Co^{2+} , Zn^{2+} , Ni^{2+} , Mn^{2+} , Cd^{2+} , Ag^+ , Mg^{2+} (weak), Ba^{2+} , Pb^{2+} ,

and combinations thereof in form of at least one water-soluble salt, and/or at least one electrochemically-released ion;

As^{3+} ;

at least one nickel-complexing agent selected from the group consisting of dimethylglyoxime, ethylenediamine and combinations thereof, and

compounds selected from the group consisting of beta-mercaptoethanol, iodine, suramin, phenylsulfinate, and furacin;

- e) d) recovering the urea-rich essentially liquid fraction obtained in step c); and
- f) e) recovering the urea-lean fraction obtained in step c);

wherein said ~~reversible~~ inhibition of step b) comprises treating said collected waste matter by a method including at least one step selected from the group consisting of decreasing pH, buffering pH, at least one of decreasing and increasing pressure, at least one of decreasing and increasing ionic strength and combinations thereof .

34-37. (Canceled)

38. (Currently Amended) The method according to claim 33 [[36]], wherein said urea-lean fraction is in form of a liquid, a solid, or a combination thereof, or in form of a dried solid.

39. (Currently Amended) The method according to claim 33 [[36]], wherein said irreversible inhibitor is recovered from said irreversibly urease-activity inhibited and separated urea-rich fraction.

40. (Previously Presented) The method according to claim 33, wherein said waste-matter comprises feces and liquid manure from farm animals.

41. (Previously Presented) A urea-rich animal waste-matter product, the product comprising urea produced from a urea-rich fraction of waste matter from animals wherein the waste matter has been treated by a method as defined in claim 33, said product further comprising animal waste-matter indicators in a range of from 200 mmol/l to 5 μ mol/l, said urea-rich animal waste-matter product exhibiting a reversible inhibition of urease catalytic activity.

42. (Previously Presented) The product according to claim 41, wherein said urea-rich fraction exhibits substantially no urease activity.

43. (Previously Presented) The product according to claim 41, wherein said urea-rich fraction exhibits minor residues of irreversibly urease-activity inhibitors.

44. (Canceled)

45. (Currently Amended) A method of producing thermosetting urea-formaldehyde plastic from waste matter of animals, the method comprising:

a) producing an essentially liquid urea-rich fraction of the waste matter from the animals by a method comprising:

i) collecting waste matter from the animals;

ii) inhibiting urease activity in said collected waste matter; [[and]]

iii) separating said urease-activity inhibited waste matter into a urea-rich fraction essentially consisting of a liquid comprising urea and other components soluble in liquid manure and a urea-lean fraction; said inhibition comprising reversible inhibiting urease activity of said collected waste matter before said separation of said urease-activity inhibited waste matter into said urea-rich fraction and said urea-lean fraction; and

iv) irreversibly inhibiting urease activity in said urea-rich fraction, wherein said irreversible inhibition comprises treating said urea-rich fraction with an irreversible inhibitor, said inhibitor being selected among the group consisting of:

urea compounds selected from the group consisting of hydroxyurea, selenourea, phenylurea and thiourea;

benzoates selected from the group consisting of p-substituted mercuribenzoate, p-chloromercuribenzoate, p-hydroxymercuribenzoate and iodosobenzoate;

p-chloromercuribenzenesulfonate;

N-ethylmaleimide;

phosphor compounds selected from the group consisting of phosphoramidate and phosphate;

monovalent ions selected from the group consisting of F^- , Na^+ , and K^+ ;

divalent metal ions selected from the group consisting of Hg^{2+} , Cu^{2+} , Fe^{2+} , Co^{2+} , Zn^{2+} , Ni^{2+} , Mn^{2+} , Cd^{2+} , Ag^+ , Mg^{2+} (weak), Ba^{2+} , Pb^{+2} and combinations thereof in form of at least one water-soluble salt, and/or at least one electrochemically-released ion;

As³⁺;

at least one nickel-complexing agent selected from the group consisting of dimethylglyoxime, ethylenediamine and combinations thereof, and

compounds selected from the group consisting of beta-mercaptoethanol, iodine, suramin, phenylsulfinate, and furacin, and

b) reacting said urea-rich fraction with methanal.

46. (Previously Presented) The method according to claim 45, wherein said waste matter comprises feces and liquid manure from farm animals.

47-48. (Canceled)

49. (Currently Amended) The method according to claim 33 [[36]], wherein the irreversible inhibitor is at least one divalent metal ion and the divalent metal ions are selected from the group consisting of Cu²⁺, Ag⁺ and Pb²⁺.

50. (Currently Amended) The product ~~method~~ according to claim 42, wherein said urea-rich fraction exhibits less than 50 unit/ml urease activity.

51. (Currently Amended) The product ~~method~~ according to claim 42, wherein said urea-rich fraction exhibits less than 20 unit/ml urease activity.

52. (Currently Amended) The product ~~method~~ according to claim 42 wherein said urea-rich fraction exhibits less than 5 unit/ml urease activity.

53. (Currently Amended) The product ~~method~~ according to claim 41 [[44]], wherein said animal waste-matter indicators are selected from the group consisting of Na⁺, K⁺, Ca²⁺, PO₄²⁻, bilirubin, albumin and uric acid.

54. (Canceled)

55. (Currently Amended) The method according to claim 45 [[54]], wherein said

irreversible inhibitor comprises divalent metal ions selected from the group consisting of Cu^{2+} , Ag^+ [[or]] and Pb^{2+} and combinations thereof.

56. (Previously Presented) The method according to claim 45, wherein said separating step comprises centrifugation or filtration.

57. (Previously Presented) The method according to claim 56, said method further comprising subjecting said urea-rich fraction to ultra-filtration to produce a urea-rich permeate.

58. (Previously Presented) The method according to claim 57, said method further comprising subjecting said urea-rich permeate to nano-filtration to produce a urea-rich nano-filtered permeate.

59. (Previously Presented) The method according to claim 58, said method further comprising subjecting said urea-rich nano-filtered permeate to hyper-filtration to produce a urea-rich concentrate.

60. (Previously Presented) The method according to claim 45, wherein the urea-rich fraction is reacted with methanal under acidic conditions.

61. (Previously Presented) The method according to claim 45 further comprising concentrating the urea formaldehyde product.